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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,013	07/17/2003	John Apostolopoulos	200300058-1	4609
22879 7590 10/20/2008 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
EXAMINER				
LEE, CHI HO A				
ART UNIT		PAPER NUMBER		
2416				
NOTIFICATION DATE		DELIVERY MODE		
10/20/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/623,013

**Applicant(s)**

APOSTOLOPOULOS ET AL.

**Examiner**

Andrew Lee

**Art Unit**

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12, 14-20, 22-26, 28-34, 36-39, 41 and 42 is/are rejected.
- 7) ☒ Claim(s) 8, 13, 21, 27, 35 and 40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-42 have been considered but are moot in view of the new ground(s) of rejection.
- 2.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7, 9-12, 13-20, 22-26, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al U.S. Patent Number 6,879,561 in view of Soliman PG-PUB 2004/0085909.

Re Claims 1, 4, 5, 14, 16, 18, 25, Zhang in fig. 1 teaches wireless access network 104 for transmitting a first order of media packets to the terminals 100 via respective channels; fig. 2 teaches a details of the 104 whereby the scheduler/interleaver 200 receives channel condition 203 of the downstream (loss characteristic) and retransmission info 209 from a terminal wherein the 200 used the above information for selecting and ordering packets for transmission (second order) (See col. 4, lines 9 +). Zhang fails to explicitly teach, "a predicted (estimated) distortion...first order". However, Soliman teaches that the channel condition can be predicted based on information from the receiver [0051 also see fig. 3]. One skilled in

art would have been motivated used the real time channel condition information, in Zhang, to determine a predicted channel condition (distortion) for reliable packet transmission. Therefore, it would have been obvious to one skilled to have combined the references.

Re Claims 2, 9, 10, 23, refer to Claim 1, Zhang teaches that the scheduler 200 orders the packets (the second order...a pattern) for transmission based on the real time channel conditions (isolated losses) from the downstream terminal, wherein the order of packets are based on the current channel condition (See col. 3, lines 15-30) for each frame or slot.

Re Claims 3, 17, refer to Claim 1, wherein 104 include a buffer 202 for storing the media packets before scheduling for transmission.

Re Claims 6, 19, refer to Claim 1, wherein the scheduler is operated by computer codes.

Re Claims 7, 20, refer to Claim 1, Zhang teaches that based on the channel conditions for each of the terminals, a particular channel 106 can be selected. The Scheduler 200 performs the selection. Fig. 1 teaches a scheduler 200 coupled to plurality of terminals via channels 106. Zhang fails to explicitly teach, "selecting adapter from a plurality of selectable...adapters". However, examiner takes notice that wireless access network 104 can include plurality of adapters to support plurality of terminals.

Re Claims 11, 22, 24, 28, refer to Claim 1, wherein Soliman teaches that channel condition prediction can be based on accumulated channel information from the terminal at predetermined intervals.

Re Claim 12, refer to Claim 1, wherein channel characteristics include packet loss (retransmission info 209).

Re Claims 15, 26, refer to Claim 1, Zhang teaches that based on the channel conditions for each of the terminals, a particular channel 106 can be selected. The Scheduler 200 performs the selection. Fig. 1 teaches a scheduler 200 coupled to plurality of terminals via channels 106.

***Allowable Subject Matter***

5. Claims 8, 13, 21, 27, 35, 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In combination of Claims 1, 4, 7, 8; 16, 20, 21; 29, 31, 34, 35, prior art fails to teach selecting one of the adapters according to a predicted distortion.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 29-33, 41, 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang et al U.S. Patent Number 6,879,561. .

Re Claims 29, 31, 32, 41, Zhang in fig. 1 teaches wireless access network 104 for transmitting a first order of media packets to the terminals 100 via respective channels; fig. 2 teaches a details of the 104 whereby the scheduler/interleaver 200 receives channel condition 203 of the downstream (loss characteristic) and retransmission info 209 (isolated losses...of media packet in the first order) from a terminal wherein the 200 used the above information for selecting and ordering packets for transmission (second order) (See col. 4, lines 9 +). Re Claims 2, 9, 10, 23, refer to Claim 1, Zhang teaches that the scheduler 200 orders the packets (the second order...a pattern) for transmission based on the real time channel conditions (isolated losses) from the downstream terminal, wherein the order of packets are based on the current channel condition (See col. 3, lines 15-30) for each frame or slot.

Re Claim 30, refer to Claim 29, wherein 104 include a buffer 202 for storing the media packets before scheduling for transmission.

Re Claim 33, refer to Claim 29, wherein the scheduler is operated by computer codes.

Re Claim 42, refer to Claim 29, Zhang teaches that based on the channel conditions for each of the terminals, a particular channel 106 can be selected. The Scheduler 200 performs the selection. Fig. 1 teaches a scheduler 200 coupled to plurality of terminals via channels 106.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al U.S. Patent Number 6,879,561.

Re Claim 34, refer to Claim 29, Zhang teaches that based on the channel conditions for each of the terminals, a particular channel 106 can be selected. The Scheduler 200 performs the selection. Fig. 1 teaches a scheduler 200 coupled to plurality of terminals via channels 106. Zhang fails to explicitly teach, "selecting adapter from a plurality of selectable...adapters". However, examiner takes notice that wireless access network 104 can include plurality of adapters to support plurality of terminals.

10. Claims 36-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhang et al U.S. Patent Number 6,879,561 in view of Soliman PG-PUB 2004/0085909.

Re Claim 36, Zhang fails to explicitly teach, "a predicted (estimated) distortion...first order". However, Soliman teaches that the channel condition can be predicted based on information from the receiver [0051 also see fig. 3]. One skilled in art would have been motivated used the real time channel condition information, in Zhang, to determine a predicted channel condition (distortion) for reliable packet

transmission. Therefore, it would have been obvious to one skilled to have combined the references.

Re Claim 37, refer to Claim 29, Zhang teaches that the scheduler 200 orders the packets (the second order...a pattern) for transmission based on the real time channel conditions (isolated losses) from the downstream terminal, wherein the order of packets are based on the current channel condition (See col. 3, lines 15-30) for each frame or slot.

Re Claims 38, refer to Claim 29, wherein Soliman teaches that channel condition prediction can be based on accumulated channel information from the terminal at predetermined intervals.

Re Claim 39, refer to Claim 29, wherein channel characteristics include packet loss (retransmission info 209).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Lee whose telephone number is 571-272-3130. The examiner can normally be reached on Monday to Friday from 8:30AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Firman Backer can be reached on 571-272-6703. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew Lee/  
Primary Examiner, Art Unit 2616